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January 24, 1978



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Gentlemen:

Enclosed is the Ocean Current Measuring Program status report for August, September, and October 1977. In accordance with the OCMP Agreement, the measuring stations were shut down in November. Late in August and early in September, the stations were affected by Hurricanes Anita and Babe. As discussed in the status report, the data recovery in the storms was reasonably good, but the conditions at the measurement sites were not too severe. A combined storm report for Anita and Babe is being prepared.

If you have any questions about the program, please call Dr. George Z. Forristall at (713) 663-2404.

Very truly yours,

K. R. Jordan, Manager Production Operations Research Department

Enclosures

LIST OF ADDRESSEES

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OCEAN CURRENT MEASURING PROGRAM
STATUS REPORT
AUGUST, SEPTEMBER, AND OCTOBER 1977

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OCEAN CURRENT MEASURING PROGRAM STATUS REPORT

I. INTRODUCTION

This is the twenty-eighth of the periodic reports mentioned in Attachment "B", Paragraphs 1 and 2 of the OCMP agreement. It covers the status of the measuring stations from August 16, 1977 to November 16, 1977, and discusses system improvements and repairs made during that time span. In accordance with the OCMP agreement, the stations were shut down in November. The charts included in this report are not intended to be a data source as the scales are nominal and the automatic-calibration data cannot be read accurately off the compressed records. The charts are useful for determining which sections of data might be of interest. Those sections of data which are of interest can then be obtained in a more readily usable form.

II. GENERAL INFORMATION

Information pertinent to the interpretation of this status report is given in this section. Detailed information on the overall instrumentation system is contained in "OCMP: Station Configurations" by Dr. G. Z. Forristall and "OCMP: Report on Electronic System" by Mr. R. C. Hamilton.

The two stations of the OCMP are numbered as follows:

Stat	ion	Number		Location
	2			Eugene Island 331A
	3			South Pass 62C

The former Station No. 1 was not operational for the 1977 season, but the station numbering has been left the same as in previous years to reduce confusion. The current meters at all stations are numbered from the top (nearest the surface) meter downward. The meters are aligned so that the x-channel measures true north-south current speed and the y-channel measured true east-west current speed. Currents setting toward the north and toward the east give positive outputs.

The current meter depths at Stations 2 and 3 given in reports written before August 1975 are incorrect. The correct depths of all meters are given below in feet.

Station	Meter	Depth Below Top of Wave Staff	Nominal Depth Below MGL
2	1	55	12
	2	90	47
en de la companya de La companya de la co	3	145	103
	4	220	177
3	1	65	15
	2	124	74
	3	202	152
	4	302	252

Each station contains two 7-channel FM magnetic tape recorders. The recorder designated "current" contains data from Current Meters 1, 2, and 3, plus time. The recorder designated "weather" contains wind, wave, barometric pressure, and time data. Additionally, the "weather" recorders contain data from Current Meter No. 4. Each data tape is given a number which appears on the magnetic tape register and on the compressed time scale chart. When requesting data, the tape number, time and date of interest, data required, and details of the time and amplitude scales required should be included in the request.

At the beginning of each compressed time scale chart included with this report is a header which contains the "nominal" calibration for each channel. This same "nominal" calibration is listed on the magnetic tape registers and it will differ slightly from the actual calibration in most instances. The calibration values marked "automatic-calibration" on the compressed time scale charts are contained in the automatic-calibration sheets in Section VII of this report.

Channel seven of all recorders contains the time signal which consists of a negative pulse every minute and a positive pulse every hour. The clock also triggers the automatic-calibration circuit once every 24 hours. The automatic-calibration circuit is triggered

manually at the start and end of the tapes to synchronize the station clock with absolute time.

III. SUMMARY OF STATION OPERATION

The OCMP stations operated rather well during this reporting period and made measurements in hurricanes Anita and Babe. Both of the storms formed rapidly in the Gulf of Mexico with little advance warning. Anita then passed to the south of the stations late in August before going ashore in northern Mexico on September 2. Babe then formed in Anita's wake and after passing near OCMP Station 2 on September 4, she moved ashore near Morgan City on the morning of September 5. The maximum two-minute winds recorded at the OCMP stations during Anita were about 50 mph and the maximum wave at Station 2 was about 35 feet high. Maximum measured current components did not exceed one ft/sec. An excellent data set was recorded except for the loss of much current data at Station 2 due to a frozen recorder drive motor. However, the recorder did run for two short periods during the storm which permits a good estimate of the current history. Little data was recorded during Babe since the station batteries had already been run down during Anita. However, the data that was recorded indicates that Babe was very weak and conditions during Babe at Station 2 most probably did not exceed those measured in Anita. A combined storm report for Anita and Babe is in preparation. An account of the operational problems at the stations throughout the reporting period is given below.

A. Station No. 2 (EI331A)

- 1) From 1900 on September 1 to 1245 on September 2 and from 1710 on September 4 to 1630 on September 6, the station did not operate because of low voltage on the standby batteries.
- 2) From August 28 to September 9, the current recorder had a frozen drive motor. However, the recorder appears to have run for two brief periods of about 1 1/2 hours each starting at 0635 on August 30 and 1600 on September 1. Cross-correlations of wave staff and current meter records will be used to determine these times precisely.
- 3) Throughout the reporting period, current meter 3Y was noisy and its data suspect.

- 4) There were two small level shifts on the weather recorder on September 21 and 23.
- 5) From October 5 to 10, the 0-ring drive belt on the weather recorder was broken.
- 6) There is no tape numbered 263C since the current recorder could not be repaired on the station visit of September 9. The recorder and tape were re-installed on September 13, but the new Mylar drive belt broke almost immediately after we left the platform. Thus, the recorder was started again with the same tape during the station visit of October 10 and the tape was labeled 264C.
- 7) All the current meters were increasingly noisy after October 10 and it is unlikely that any of the data is usable.
- 8) On November 7, the drive motor on the weather recorder froze, ending the tape. The current tape ran until the station check on November 12 when the station was shut down.

B. Station No. 3 (SP62C)

- 1) From 0215 on September 1 to 1130 on September 6, the station did not operate because of low voltage on the standby batteries.
- 2) The current tape was off the recorder heads from September 9 until September 21.
- 3) The gearbox on the current recorder froze on October 24, ending the last current tape.
- 4) The wave transducer failed on October 11 and was replaced on October 19. During this time span, some noise appeared on the wind direction signal.
- 5) Sometime between the October 19 and November 6 station checks, the recorded wind direction became incorrect. The precise time of the shift is not known.

IV. SYSTEM IMPROVEMENTS AND REPAIRS

A. Station No. 2 (EI331A)

1) September 9, 1977. We attempted to repair the current recorder by installing a spare drive motor and capacitor. The attempt failed because the replacement motor had an electrical fault. We then removed the recorder from the station for repair.

- 2) September 13, 1977. The rebuilt current recorder was installed.
- 3) October 10, 1977. A new hour pulse battery for the clock was installed since the hour pulses had become weak. The 0-ring drive belt on the weather recorder and the Mylar drive belt on the current recorder were replaced.
- 4) November 16, 1977. The tape recorders were removed, but all sensors were left running.

B. Station No. 3 (SP62C)

- 1) September 9, 1977. A new wave staff transducer was installed.
- 2) October 19, 1977. The wave staff transducer was again replaced.
- 3) November 6, 1977. The tapes were removed and not replaced, but the tape recorders were left at the station and all instruments were left on.

V. CURRENT METER STATUS

All four current meters at Station 3 continued to work well up to the end of the 1977 phase of the OCMP. However, by October, the top three meters at Station 2 had all become very noisy. Since the probes and cables were all left in the water, an accurate assessment of the cause of the failures has not been possible.

G. Z. Forristall Shell Development Company Houston, Texas January 19, 1978

Shell Development Company Houston, Texas

STATION	T 331 (#2)	TAPE ON 2	3116 177	0941
TAPE NO. 2	262 W	TAPE OFF	919177 -	0922
CHANNEL	SENSOR	NOMINA	L FM TAPE ALIC	nment*
1	Wave Height	-40 percent CREST 80 ft	Center 40 ft	+40 percent TROUGH 0 ft
2	Wind Speed	0 mph	100 mph	200 mph
3	Wind Direction	deg.	202.5 deg.	405 deg.
4	Barometer	26.0 in. Hg.	28.5 in. Hg	. 31.0 in. Hg.
5	Current 4X	<u> 20,0(s)</u> fps	0 fps	20,0(N)fps
6	Current 4Y	200(w)fps	0 fps	200(B)fps
. 7	Time Signal	minutes		hours
GENERAL CO	MMENTS: Com plete	tope exce	pt from 21	900 9/1 to 2/249
9/2 and	from 2 /7/0 9	14 to v 1630	3/6 due	to low befferies
WAVE HEIGHT	1: complete	record.		
WIND SPEED	: Complete	re und.		
WIND DIRECT	TION: Complete	t recad.		
BAROMETRIC	PRESSURE: Comp	obte record.		
CURRENT ME	TER 4X: Comp	lete record.		
CURRENT ME				
TIME SIGNA	L: Complete.	clock and	AUTO-CAL	
	V	•		

^{*} Field tapes recorded at 0.03 ips IRIG FM low density.

SHELL DEVELOPMENT COMPANY Houston, Texas

TAPE NO. 262 C TAPE OFF 8/28/17 20408* ** \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	STATION	ET 33/	TAPE ON	81/6 177	0941
CHANNEL SENSOR NOMINAL FM TAPE ALIGNMENT* -40 percent Center	TAPE NO.	262C			TO PROSEN DENE MOTOR
1 Current 3X 20 (S) fps 0 fps 20 (N) fps 2 Current 3Y 20 (W) fps 0 fps 20 (E) fps 3 Current 2X 20 (S) fps 0 fps 20 (N) fps 4 Current 2Y 20 (W) fps 0 fps 20 (E) fps 5 Current 1X 20 (S) fps 0 fps 20 (N) fps 6 Current 1Y 20 (W) fps 0 fps 20 (E) fps 7 Time Signal minutes 0 hours GENERAL COMMENTS: Complete to vocas for vocas flow two short pieces after that time ine for vocas for vocas flowed. CURRENT METER 3X: Complete record with noise making date questionable. CURRENT METER 2X: Complete record. CURRENT METER 1X: Complete record. CURRENT METER 1X: Complete record. CURRENT METER 1X: Complete record.	CHANNEL	SENSOR			
2 Current 3Y 20 (W) fps 0 fps 20 (E) fps 3 Current 2X 20 (S) fps 0 fps 20 (N) fps 4 Current 2Y 20 (W) fps 0 fps 20 (E) fps 5 Current 1X 20 (S) fps 0 fps 20 (N) fps 6 Current 1Y 20 (W) fps 0 fps 20 (E) fps 7 Time Signal minutes 0 hours GENERAL COMMENTS: Complete to record with forces after that time inches from 20635 to 2035 8/30 + 2/100 8/1 & 2/100 8/1. CURRENT METER 3X: Complete record. CURRENT METER 3Y: Complete record. CURRENT METER 2Y: Complete record. CURRENT METER 1X: Complete record. CURRENT METER 1X: Complete record. CURRENT METER 1X: Complete record.			-40 percent	Center	+40 percent
3 Current 2X 20 (S) fps 0 fps 20 (N) fps 4 Current 2Y 20 (W) fps 0 fps 20 (E) fps 5 Current 1X 20 (S) fps 0 fps 20 (N) fps 6 Current 1Y 20 (W) fps 0 fps 20 (E) fps 7 Time Signal minutes 0 hours GENERAL COMMENTS: Complete to reach also two short pieces after that time ine form 20635 to reals 8/30 to 1600 8/1 to 1720 9/1. CURRENT METER 3X: Complete record with noise making date questionable. CURRENT METER 2Y: Complete record. CURRENT METER 2Y: Complete record. CURRENT METER 1X: Complete record. CURRENT METER 1X: Complete record.	1	Current 3X		0 fps	fps
4 Current 2Y 20 (W) fps 0 fps 20 (E) fps 5 Current 1X 20 (S) fps 0 fps 20 (N) fps 6 Current 1Y 20 (W) fps 0 fps 20 (E) fps 7 Time Signal minutes 0 hours GENERAL COMMENTS: Complete to reach 8/25. Two short pieces after that time inc for 2055 to 205/5 8/30 + 2 1000 8/1 & 21720 9/1. CURRENT METER 3X: Complete record with noise meling date questionable. CURRENT METER 2X: Complete record. CURRENT METER 2X: Complete record. CURRENT METER 1X: Complete record. CURRENT METER 1X: Complete record.	2	Current 3Y		0 fps	fps
5 Current IX 20 (S) fps 0 fps 20 (N) fps 6 Current IY 20 (W) fps 0 fps 20 (E) fps 7 Time Signal minutes 0 hours GENERAL COMMENTS: Complete to reason 8/28. Two short pieces after that time inc for 20635 to 20315 8/30 + 2 1000 8/1 & 21200 8/1. CURRENT METER 3X: Complete record with noise making date questionable. CURRENT METER 2X: Complete record. CURRENT METER 2X: Complete record. CURRENT METER 1X: Complete record. CURRENT METER 1X: Complete record.	3	Current 2X		0 fps	fps
6 Current 1Y 20 (W) fps 0 fps 20 (E) fps 7 Time Signal minutes 0 hours GENERAL COMMENTS: Con pete to reace 8/28. Two short pieces after that time: i.e for ~ 0635 to rests 8/30 + ~ 1600 8/1 & ~ 1720 9/1. CURRENT METER 3X: Com plate record with noise making date questionable. CURRENT METER 2X: Complete record. CURRENT METER 2X: Complete record. CURRENT METER 1X: Complete record. CURRENT METER 1X: Complete record. CURRENT METER 1X: Complete record.	4	Current 2Y		0 fps	
Time Signal minutes 0 hours GENERAL COMMENTS: Complete to 20100 8/28. Two short pieces after that time ine from 20635 to 20815 8/30 + 2 1600 8/1 & 20100 9/1. CURRENT METER 3X: Complete record with noise making date questionable. CURRENT METER 2X: Complete record. CURRENT METER 2X: Complete record. CURRENT METER 2X: Complete record. CURRENT METER 1X: Complete record. CURRENT METER 1X: Complete record. CURRENT METER 1X: Complete record.	5	Current 1X		0 fps	20 (N) fps
GENERAL COMMENTS: Complete to rosco 8/28. Two short pieces after that time: i.e from 2 0635 to 20819 8/30 + 2 1600 8/1 & 21700 9/1. CURRENT METER 3X: Complete record with noise making date questionable. CURRENT METER 2X: Complete record. CURRENT METER 2X: Complete record. CURRENT METER 2X: Complete record. CURRENT METER 1X: Complete record. CURRENT METER 1X: Complete record. CURRENT METER 1X: Complete record except from 2 1400 8/22 to 21000 8/23 when signal was lost.	6	Current 1Y		0 fps	fps
CURRENT METER 3X: Complete record with noise making date questionable. CURRENT METER 2X: Complete record. CURRENT METER 1X: Complete record. CURRENT METER 1X: Complete record. CURRENT METER 1X: Complete record.	7	Time Signal	minutes	0	hours
CURRENT METER 2X: Complete record. CURRENT METER 1X: Complete record. CURRENT METER 1X: Complete record. CURRENT METER 1Y: Complete record except from ~ 1400 8/22 to ~ 1000 8/23 when signal was lost.	CURRENT 1 CURRENT 1 CURRENT 1	METER 3X: Con METER 3Y: Con METER 3Y: Con	plate record.	8/30 + ~ /6	00 8/1 & 2/20 9/1.
CURRENT METER 1X: Complete record. CURRENT METER 1X: Complete record. CURRENT METER 1Y: Complete record except from ~ 1400 8/22 to ~ 1000 8/23 when signal was lost.	CURRENT 1	METER 2X: Com	state record.		
CURRENT METER 14: Com plete record except from ~ 1400 8/22 to ~ 1000 8/23 when signal was lost.		· · · · · · · · · · · · · · · · · · ·			
to v 1000 8/23 when signal was lost.	CURRENT N	ETER 1X: Com	plike record.		
	tov	1000 8/23 wh	en signal co	es 105 tr	

^{*} Field tapes recorded at 0.03 ips IRIG FM low density.

Shell Development Company Houston, Texas

TAPE NO. 26300 TAPE OFF 1015177 20415 # 0-RING DRIVE BEST BROWN NOMINAL FM TAPE ALIGNMENT* 1 Wave Height 20 ft 40 ft 0 ft 2 Wind Speed 0 mph 100 mph 200 mph 3 Wind Direction 0 deg. 202,5 deg. 405 deg. 4 Barometer 26.0 in. Hg. 28.5 in. Hg. 31.0 in. 5 Current 4X 20 (S) fps 0 fps 20 (N) 6 Current 4Y 20 (W) fps 0 fps 20 (E) 7 Time Signal minutes hours 6 GENERAL COMMENTS: 6 ft 20415 10/5 cuben 0-rin 6 Society of the second shifts in Chan 1-4 of 2000 9/5, 10200 9/21, 2220	h g. . Hg. fps
CHANNEL SENSOR NOMINAL FM TAPE ALIGNMENT* 1 Wave Height Oft Crest of to the country of the coun	h g. . Hg. fps
1 Wave Height Oft Oft 2 Wind Speed Omph 100 mph 200 mph 3 Wind Direction Odeg. 202.5 deg. Ac5deg 4 Barometer 26.0 in. Hg. 28.5 in. Hg. 31.0 in. 5 Current 4X 20 (S) fps Ofps 20 (N) 6 Current 4Y 20 (W) fps Ofps 20 (F) 7 Time Signal minutes hours GENERAL COMMENTS: Complete tops to 20415 10/5 when Orion	h g. . Hg. <u>)</u> fps
1 Wave Height	h g. . Hg. <u>)</u> fps
1 Wave Height 20 ft 40 ft 0 ft 2 Wind Speed 0 mph 100 mph 200 mph 3 Wind Direction 0 deg. 202.5 deg. 405 deg. 4 Barometer 26.0 in. Hg. 28.5 in. Hg. 31.0 in. 5 Current 4X 20 (S) fps 0 fps 20 (N) 6 Current 4Y 20 (W) fps 0 fps 20 (E) 7 Time Signal minutes hours GENERAL COMMENTS: Complete text text 2045 text 105 when 0-rin	h g. . Hg. <u>)</u> fps
3 Wind Direction O deg. 202.5 deg. 405 deg. 4 Barometer 26.0 in. Hg. 28.5 in. Hg. 31.0 in. 5 Current 4X 20 (S) fps 0 fps 20 (N 6 Current 4Y 20 (W) fps 0 fps 20 (E 7 Time Signal minutes hours GENERAL COMMENTS: Complete tops to 20415 10/5 when 0-rim	g. . Hg. <u>)</u> fps
4 Barometer 26.0 in. Hg. 28.5 in. Hg. 31.0 in. 5 Current 4X 20 (S) fps 0 fps 20 (N 6 Current 4Y 20 (W) fps 0 fps 20 (E 7 Time Signal minutes hours CENERAL COMMENTS: Complete tops to 20415 10/5 cuben 0-rin	. Hg. <u>)</u> fps
5 Current 4X 20 (S) fps 0 fps 20 (N 6 Current 4Y 20 (W) fps 0 fps 20 (E 7 Time Signal minutes hours GENERAL COMMENTS: Complete tope to 20415 10/5 when 0-rim	<u>)</u> fps
6 Current 4Y 20 (W) fps 0 fps 20 (E 7 Time Signal minutes hours GENERAL COMMENTS: Complete tops to 20415 10/5 when 0-rim	
7 Time Signal minutes hours GENERAL COMMENTS: Complete tope to 20415 10/5 when 0-ring) fps
GENERAL COMMENTS: Complete tope to 20415 10/5 when 0-ring	
11 1 1:11 : of the standard children	s
WAVE HEIGHT: Complete record.	•
WIND SPEED: Complete record.	
WIND DIRECTION: Complete record.	
BAROMETRIC PRESSURE: Complete record	
CURRENT METER 4X: Complete record.	
CURRENT METER 44: Complete record.	
TIME SIGNAL: Complete clock and Auto-CAL.	

^{*} Field tapes recorded at 0.03 ips IRIG FM low density.

SHELL DEVELOPMENT COMPANY Houston, Texas

STATION	EI 33/ (2	#Z) TAPE ON	91/3177	1340
TAPE NO.	264C	TAPE OFF	11 112177	1530 *
			* TAPE RAN	OUT
CHANNEL	SENSOR	NOMI	NAL FM TAPE AL	GNMENT*
		-40 percent	Center	+40 percent
. 1	Current 3X		0 fps	fps
2	Current 3Y		0 fps	
3	Current 2X		0 fps	20 (N)fps
4	Current 2Y		0 fps	
5	Current 1X		0 fps	20 (N) fps
6	Current 1Y		0 fps	20 (E) fps
7	Time Signal	minutes	0	hours
· GENERAL. (COMMENTS	tarell a		4-70 1 1
* .	0			1039 10/10 due to
broken		Most data	ere unus	:fle
CURRENT 1	METER 3X:	plote recent	with go	ed data.
CURRENT N	TETER 3Y:	Note record	but date	are very
neisy	i and prot	ally unusak	lê	
CURRENT	TETER 2X:	Note record	but did	not calibrate
after	10/13, Da	to probably	enusalle.	
CURRENT 1	TETER 2Y	slete record	but did n	of calibrate
after	10/13 Day	t probably	unusable	
CURRENT N	ETER 1X:	state relead	but senso	appeared to
CHADRATE	C -/700	113	2	00 0 A
CUKKKNI M	TELEK III: Com	plate recent	with US	saffe data.
TIME SIGN	IAL: Complet	te clock a	A AUTO-	-CAL.

^{*} Field tapes recorded at 0.03 ips IRIG FM low density.

Shell Development Company Houston, Texas

STATION	I33/ (#2)	TAPE ON /d/o 177 /039 CDT
TAPE NO.	264W_	TAPE OFF /// 7/77 ~ 0/30 CDT ~ 0230 CST
CHANNEL	SENSOR	NOMINAL FM TAPE ALIGNMENT*
1	Wave Height	-40 percent Center +40 percent (CREST) (TROWN) -80 ft -40 ft 0 ft
2	Wind Speed	0 mph 100 mph 200 mph
3	Wind Direction _	O deg. 202/2 deg. 405 deg.
4	Barometer	26.0 in. Hg. 28.5 in. Hg. 31.0 in. Hg.
5	Current 4X	20 (S) fps 0 fps 20 (N) fps
6	Current 4Y	20 (W) fps 0 fps 20 (E) fps
7	Time Signal	minutes hours
GENERAL COM		tope until drive noter pose at
WAVE HEIGHT	- 11-	were record.
WIND SPEED:	Complete	wind good.
WIND DIRECT	ION: Complete	to wind direction.
BAROMETRIC 1	PRESSURE: Compto	eté toronetrie pressure.
CURRENT MET	ER 4X: Com ple	to record.
CURRENT MET	ER 44: Comple	te record.
TIME SIGNAL	: Conflete	clock and Auto-CAL.

^{*} Field tapes recorded at 0.03 ips IRIG FM low density.

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STATION_	062C (#3)	TAPE ON	8116177	/337
TAPE NO.	357W	TAPE OFF	919177	/35/
CHANNEL	SENSOR	NOMIN	AL FM TAPE ALIGN	IMENT*
1 · · · · · · · · · · · · · · · · · · ·	Wave Height	-40 percent (C.265T) ft	Center 40 ft	+40 percent (THOUSH) 0 ft
2	Wind Speed	0 mph	100 mph	200 mph
3	Wind Direction	360 deg.	180 deg.	0 deg.
4	Barometer	26.0 in. Hg.	28.5 in. Hg.	31.0 in. Hg.
5	Current 4X	<u>20,0(5)</u> fps	0 fps	200(W) fps
6	Current 4Y	<u>20.0(ω)</u> fps	0 fps	2006 fps
7	Time Signal	minutes		hours
GENERAL C	OMMENTS: Complete	tape excep	of from 2 Ou	215 9/1 16
2//30	7/6 when batter	ies ran de	own. Date are	slightly noisy.
WAVE HEIG	HT: Complate	econd.		
		Δ		
WIND SPEE	D: Complete r	e-cord.		
WIND DIRE	ction: Complete	record.		
BAROMETRI	C PRESSURE: Comp	state recom	P.	
CURRENT M	ETER 4X: Complete	t record.		
CURRENT M	ETER 44: Complete	record.		
TIME SIGN	NAL: Complete c	lock and	Auto-CAL	

^{*} Field tapes recorded at 0.03 ips IRIG FM low density.

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STATION	SP 62C	(#3)	TAPE ON	81161	7.2	_/337	
TAPE NO.	357		TAPE OFF	919	177	_/35/	····
CHANNEL	SENSOR		NOMI	NAL FM T	APE AL	I GNMENT*	
	en e	-40	percent	Се	nter	+40 percer	at
1	Current 3X		<u>(S)</u> fps	0	fps		_fps
2	Current 3Y	20	(W) fps	0	fps	20 (E)	_fps
3	Current 2X	20	<u>(S)</u> fps	0	fps	20_(N)	_fps
4	Current 2Y	_ 20	<u>(W)</u> fps	0	fps	20 (E)	fps
5	Current 1X	20	(S) fps	0	fps	20 (N)	fps
6	Current 1Y	_20	(W) fps	0	fps	_20 (E)	fps
7	Time Signa	l min	utes	0		hours	
GENERAL CO	OMMENTS:	an plate	tope e	xcept	Low	20215 9/1	10
	29/6 d		1000 60	Herjes,	·		
CURRENT M	ETER 3X:	ou plate	record	2			
					·		
CURRENT M	ETER 3Y:	omplete	record	<u>//</u>			
CURRENT M	ETER 2X:	= 14					
	and de dark to de	em proses	recene.				
CURRENT M	ETER 2Y	omplete	record.				
							·
CURRENT MI	ETER 1X:	em plete	record.				
CURRENT MI	ETER 1Y:	eru plete	record.				
		<u>U</u>					
TIME SIGNA	IL: Comp	lete clea	kal	Auto	-CA		
• ,							

^{*} Field tapes recorded at 0.03 ips IRIG FM low density.

Shell Development Company Houston, Texas

STATION SP62C (#3)	TAPE ON	919177	1433
TAPE NO. 35800	TAPE OFF	101/0177	13.33
CHANNEL SENSOR	NOMI	NAL FM TAPE ALIG	nment*
1 Wave Height	-40 percent (CROST) 	•	+40 percent (TROUGH) 0 ft
2 Wind Speed	0 mph	100 mph	200 mph
3 Wind Direction	360 deg.	180 deg.	0 deg.
4 Barometer	26.0 in. Hg	. 28.5 in. Hg.	31.0 in. Hg.
5 Current 4X	20 (S) fps	0 fps	20 (N) fps
6 Current 4Y	20 (W) fps	0 fps	20 (E) fps
7 Time Signal	minutes		hours
MAVE HEIGHT: Complete	els.	Slight high	frequency
WIND SPEED: Con plete	record.		
WIND DIRECTION: Complete	record.		
BAROMETRIC PRESSURE: Comple	to recon		
CURRENT METER 4X: Complete	record		
CURRENT METER 4Y: Complete	record.		
TIME SIGNAL: Complete cla	lock and	AUTO-CAL.	

^{*} Field tapes recorded at 0.03 ips IRIG FM low density.

SHELL DEVELOPMENT COMPANY Houston, Texas

CMAMTO	. 5012	- (#.	2)							
STATIO	N <u>SP620</u>		2)	TAPE	ON _	919	77		3_	
TAPE NO	o. <u>358</u>	<u>C</u>		TAPE	OFF	1013	177	~1100	*	
	_					Tape.				
CHANNE	L SENSO	R	İ			NAL FM 1	APE AL	GNMENT*		
			-40	perc	ent	Ce	nter	+40	perce	nt
1	Current	3X		(S)	_fps	0	fps	20_	(N)	_fps
2	Current	3 Y	20	(W)	_fps	0	fps	20	(E)	_fps
3	Current	2X	20	(s)	fps	0	fps	20_	(N)	_fps
4	Current	2Y	_20	(W)	fps	0	fps	20	(E)	_fps
. 5	Current	1X	20_	(s)	fps	0	fps	20_	(N)	_fps
6	Current	14	20_	(W)	fps	0	fps	20_	(E)	_fps
7	Time Sig	gnal_	min	ites		0		hou	rs	
GENERAL	. comments:_ Deta an	Tope u	es e	/ /	/	from		9/9 to	20	100
	METER 3X:	Conf	le te	rec	al	when		hoods.		
CURRENT	METER 3Y:	Compr	to-	rec	end.	icho.	2 02	hods		
CURRENT	METER 2X:	Comple	te-	rece	nd	cirlian	. 00	heads	*	
CURRENT	METER 2Y¥	Comp	lete.	rece	nd	when	נדדי	head	9	
CURRENT	METER 1X:	Compl	eta	raci	ord	when	On	head) 5 <u>, </u>	
CURRENT	METER 1Y:	Compl	ete-	rece	nd	when	On	heals		
TIME SI	GNAL: Com	akte.	Clock) e	ud	Auto-	Cel u	hen or	he	eds

^{*} Field tapes recorded at 0.03 ips IRIG FM low density.

SHELL DEVELOPMENT COMPANY Houston, Texas

STATION	SP62C (TAPE ON	10110 177	1409
TAPE NO.	359C	TAPE OFF	10 124 177	2/300
CHANNEL	SENSOR	NOM	INAL FM TAPE AL	IGNMENT*
		-40 percent	Center	+40 percent
1	Current 3X	_20 (S) fps	0 fps	
2	Current 3Y	20 (W)_fps	0 fps	
3	Current 2X	20 (S)_fps	0 fps	fps
4	Current 2Y	fps	0 fps	
5	Current 1X	_20 (S) fps	0 fps	
6	Current 1Y	_20 (W) fps	0 fps	
7	Time Signal	minutes	0	hours
10/24.	COMMENTS: Com All data METER 3X: Com	high some h	stil gearlex	hoze at 13a
CURRENT M	METER 3Y:	mplete record.		
CURRENT M	ETER 2X:	aplete record.		
		plete record.		
CURRENT M	ETER 1X:	nglete record.		
CURRENT M	ETER 1Y: Com	plets record.		
'IME SIGN	AL: Comp	lete Clock	and AUTO.	-CAL

^{*} Field tapes recorded at 0.03 ips IRIG FM low density.

Shell Development Company Houston, Texas

STATION_S	SP62C #3	TAPE ON	101/0177	1409 057			
TAPE NO.	359W	TAPE OFF	1116177	1140 CST			
CHANNEL	SENSOR	NOMI	NAL FM TAPE ALI	GNMENT*			
1	Wave Height	-40 percent (CREST) - 80 ft	Center <u>40</u> ft	+40 percent (72006#) 0 ft			
2	Wind Speed	0 mph	100 mph	200 mph			
3	Wind Direction	360 deg.	` 180 deg.	0 deg.			
4	Barometer	26.0 in. Hg	28.5 in. Hg	. 31.0 in. Hg.			
5	Current 4X	20 (S) fps	0 fps	20 (N) fps			
6	Current 4Y	20 (W) fps	0 fps	20 (E) fps			
7	Time Signal	minutes		hours			
GENERAL COMMENTS: Complete topo were transducer out 21830 10/11							
to 1017 1	10/19. Wind Sir	ection wa	s incorrect	at end of tops			
WAVE HEIGH	_ / L	cept from		1 6 1017			
10/19.	Transducer of	ailed dure	ing that or	eriod.			
WIND SPEED: Complete wind spool.							
	<i>O</i>			<u> </u>			
WIND DIRECTION: Complete wind direction; however, dete are							
suspect as direction was incorrect when tope removed.							
BAROMETRIC PRESSURE: Com dete Carometer.							
CURRENT METER 4X: Com plete record.							
CURRENT METER 44: Complete record.							
TIME SIGNAL: Complete dock and Auto-CAL.							

^{*} Field tapes recorded at 0.03 ips IRIG FM low density.